

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-20 are presently active in this case, Claims 1, 3-11 and 18-19 having been amended by the present amendment.

In the outstanding Office Action, the specification was objected to as including informalities requiring correction; Claims 6-9 and 9-10 were rejected under 35 U.S.C. §112, first paragraph, because the best mode contemplated by the inventor has not been disclosed; Claims 5-7 and 9-10 were rejected under 35 USC §112, second paragraph, as being indefinite; Claims 1-4, 16 and 18-20 were rejected under 35 USC §103(a) as being unpatentable over Sugaya et al (US 5,754,299, hereinafter called "Sugaya"); and Claims 5-10 were rejected under 35 USC §103(a) as being unpatentable over Sugaya in view of Hirai et al (US 5,608,488, hereinafter called "Hirai").

In response to the objection to the specification, informalities uncovered in the specification have been corrected herewith. If the Examiner uncovers further specific informalities, the Examiner is encouraged to bring them to Applicant's attention and Applicant stands willing to cooperate with the Examiner in correcting any further uncovered informalities.

Applicants respectfully traverse the "best mode" rejection of Claims 6-9 and 9-10 under 35 U.S.C. 112, first paragraph, because the present record clearly does not support a finding of intentional concealment of the best mode contemplated by the inventor. The outstanding Office Action relies upon the specification at page 41 last 6 lines to page 42 first 5 lines in support of the rejection. However, this portion of the specification describes that as a method for estimating a position of a mark, not only an "interpolation method" but also an

“extrapolation method” may be used. Therefore, it is believed that application of concealment of the best mode to such a supplemental description is inappropriate. Certainly persons skilled in the art are familiar with interpolation and extrapolation techniques, and Applicant’s identification of such techniques clearly informs persons of techniques known in the art. Thus, the cited passage does not suggest concealment of anything, and if the Examiner maintains the rejection, then it is respectfully requested that clarification be provided as to exactly what is allegedly being concealed and on what basis it has been concluded that “concealment” is intentional. Otherwise, as indicated, Applicant respectfully traverses the “best mode” rejection on the basis that nothing has been intentionally concealed.

In response to the rejections under 35 U.S.C.112, second paragraph, Claims 5-7 and 9-10 are amended to overcome the rejections. No new matter has been added. If however, the Examiner still considers clarification of the claimed subject matter is necessary or desirable, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually satisfactory claim language.

Turning now to the applied prior art, Sugaya discloses in column 4 that based on asymmetry of each of a plurality of images of a wafer mark WM which has been picked up while changing focus states, “a change in asymmetry” of the image within a predetermined defocus range is calculated. Also, Sugaya discloses in column 25 a general alignment measurement method in which an image of a mark is picked up, and a position of the mark is calculated by computing the pick-up signal. Further, Sugaya discloses in columns 15 and 16, and Fig. 6 that “relationships between defocus amount and a mark position X (Figs. 3-5)” is obtained based on the image of the mark which has been detected while changing a focus state. Further, Sugaya discloses that amount α proportional to asymmetric aberration (ST6 in

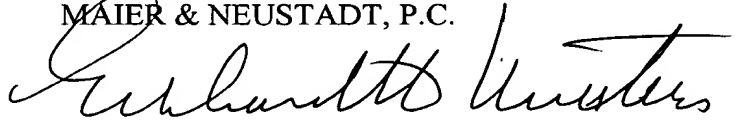
Fig. 6), amount L proportional to symmetric aberration (ST7 in Fig. 6) and telecentric index amount X/Z (ST8 in fig. 6) are calculated based on the relationship in Fig. 5.

However, Sugaya does not disclose a method for estimating a mark position using a relationship between defocus amount and the mark position (Figs. 3-5 of Sugaya). Sugaya neither discloses nor suggests a concept that one mark position is estimated using mark signals obtained in a plurality of defocus states. Further, Sugaya neither discloses nor suggests a concept that "relationships between various focus states and a mark position (Figs. 3-5)" is estimated from mark signals in the plurality of defocus states, and the mark position is estimated based on the foregoing estimation result. Since these deficiencies in Sugaya are not remedied in Hirai, it is respectfully submitted that the outstanding rejection on the merits is traversed.

Consequently, in view of the present amendment and in light of the above comments, no further issues are believed to be outstanding, and the present application is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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